OHIO STATE ENGINEER

Member Engineering College Magazines Associated

ROOM 117, SHOPS BLDG. COLUMBUS, OHIO

Published four times during the school year by students in the College of Engineering, Ohio State University. Subscription price, $1.00 per year. 25 cents per copy.

Vol. VII NOVEMBER, 1923 No. 1

EDITORIALS

GREETINGS

WITH this issue the new staff takes the helm of the good ship, "OHIO STATE ENGINEER." We hope to make this year the best ever with the help of the Engineering student body. Although over six years old the OHIO STATE ENGINEER is still in its infancy compared with the magazine we can have if the students put their shoulder to the wheel by sending in contributions or criticisms. It is your magazine, so why not take enough interest to tell us your criticisms, if any. If there is something about the magazine you think could be changed and that would increase your interest, you should feel it your duty to tell us. There are boxes in Lord Hall and Brown Hall for this purpose and also for contributions.

There are always a few men try out for positions on the staff, but as the positions are open to all students in the Engineering College, the number is not nearly as large as it should be. Do not hesitate to come to the meetings held every Tuesday at 4 o'clock in Room 117, Shops Building.

GET OFF ON THE RIGHT FOOT

Graduation seems a long way off to the Freshmen Engineer as he looks about the campus during his first week at Ohio State. Graduation is a long way off for the man who does not get the right kin dof a start but it is a short four-year dash for the man who digs his starting holes just right and puts his full power in that first jump with the crack of the pistol.

Much of the work in the Engineering College depends upon the fundamentals which one learns during the first year. A good start in one's studies is a long step towards the goal and certainly studies should be the first consideration. There are many sides to a student's life, however. Not every one can win his "O" on the football team but there is not a student in school who is not deriving a great benefit from football. There is no sport which brings every college of the University together as football does. It helps break down the barriers of school life just as the successful engineer must break down the barriers which seem to separate the business professions. An engineer must be able to meet people and to think quickly and decisively when talking to a group of people as well as to a single person. There is no better time to develop this ability than in the classroom and on the campus. Start your college course by taking advantage of the opportunities that lie in wait for you in your Freshman year.

DON'T PITY THE ENGINEER

One of the little things noticeable about engineering students is the fact that they are terribly overworked because of their heavy curriculum. When a group of embryo engineers get together with other students there is frequently a grumble from them about the report that is due or the number of hours they spend in study. Our professors seem to be employed only to make life miserable by giving us monster assignments.

We have chosen engineering as a profession of our own free will and if we are not satisfied a change is nearly always possible. Will we remain the same after we graduate and have a tough job to tackle that requires hard work and long hours? One of our alumni was given a rush job of designing plans for a structure not long ago. He worked from fifteen to eighteen hours a day for nearly two weeks before they were completed. We may have to work that many hours while in school, but an engineer is expected to do things and what can anyone accomplish without work?

Now is the time to learn to work to the best advantage. If you feel like grumbling, do it to another engineer who has as much if not more work than you. Perhaps he will sympathize with you. Let's try to avoid this in the coming year. It is true our course is as hard as any and an argument among ourselves as to the most difficult course is harmless, but avoid the "imposed upon" attitude.

VISCOLAC

After many years of experimentation, chemists have now developed a new finish for wood and metal, which it is claimed is so durable, tough and hard that it will resist high degrees of heat, hot or cold liquids and hot plates or dishes. It is described also as absolutely waterproof—in fact it can be washed with soap and water.

The new material, which is known as viscolac, is now in use in many wood and metal working industries, including the manufacture of automobiles and furniture. It is made of ingredients entirely different from those of the old style varnishes. It is a pyroxylin solution, which is developed from cotton and which seems to have a natural affinity for wood and metal surfaces of all kinds.

It has been tested out under some of the most difficult conditions, even live steam having been turned on it and yet it was found to survive this test. Chemists state that it does not readily chip or crack, is unusually hard and tough and has the extraordinary advantage from a manufacturing standpoint that it air-drys very rapidly.

The chemists who produce viscolac believe that it will completely revolutionize the art of wood and metal finishing. They point to the fact that tables and other household furniture finished with this new material are completely immune from any harmful effects of food or any kind of liquids being spilled on them.

Automobiles finished with the viscolac type of enamel retain their original beauty much longer than the ordinary finishes.

John Palmer Gavit, who probably has more personal knowledge about different American colleges than any other man, says that the students in most colleges can be divided into four groups, as follows:

Group 1.—The socially prominent and personally popular. Prominent in athletic and other undergraduate activities. Financially comfortable as a rule with small proportion working their way. Few of high standing in scholarship. Few Phi Beta Kappas and excessive proportion of low-grade students. About 25% of total students in this group.

Group 2.—Men of lesser importance. Engaged in minor sports and activities. Better grades than group 1. Members of less prominent clubs and fraternities. A large proportion working their way. Few Phi Beta Kappas. About 30% of total students in this group.

Group 3.—The real students. Not conspicuous socially but monopolizing the Phi Beta Kappa group. About one-fifth of this group working their way and having a hard time financially. Have no time or money to waste and take college very seriously. About 20% of total students in this group.

Group 4.—The recluses and entirely obscure. Half or more are earning their way and in serious financial straits. Includes those living in nooks, corners and attics of the neighborhood and getting education under the greatest handicap. Various scholarship grades from highest to lowest. About 25% of total students in this group.

THE ELECTRIFICATION OF INDUSTRY

The present generation has seen the beginning of the commercial use of the electric motor and in this relatively short time, so much progress has been made by the engineers of many nations in the perfection of apparatus for the generation, transmission and utilization of electricity that from a very crude beginning the electric motor is rapidly becoming the accepted form of power in all industries and in all countries.

Although the growth of the electrification of industry has been rapid and continuous in the past, there is every reason to believe that the future will bring even greater opportunities for those connected with the many phases of the electrical industry and for those in other industries who will take advantage of the developments in the electrical art.

The public at large usually has very little knowledge of the progress in the electrical art except where it directly touches the daily life of the individual, as in transportation, lighting, electric domestic appliances, and more recently the developments in the radio field. Comparatively few are aware of the wonderful advances in the application of electricity to industry where the effects upon our economic life are equally as great though only indirectly seen.

Where water, steam and gas power once held full sway in the industries of the United States, there is now being furnished by the electric motor approximately 65% of the power used. This is indeed a great growth when it is taken into consideration that it has almost all been accomplished since the beginning of the present century and, at the present rate of increase, within the next five years approximately 75% of the power used by the industries of this country will be furnished by the electric motor.

In the making of iron and steel, more power is required than in any other single industry.

In the mining and treating of ores, the mining of coal, the conversion of forests into finished products, electricity has played an important part, and there can be no doubt but that the extent with which this great agency is used will affect the relative position of nations in the commerce of the world, because of the economies and improved products which are possible by the use of electric power.

The advantages of electric power are specific and definite in each industry.

The sugar mills of Cuba are today using approximately 650,000 h.p., of which about 30% is already electrified on account of the advantages peculiar to their conditions.

The textile mills of Japan and China, as well as the mining operations of the world, are rapidly being electrified, each because of the economic necessities of the particular industry.

The research and designing engineers are rapidly accomplishing the successful application of electrical machinery to those processes as yet unelectrified, the great advances made in the apparatus for controlling the actions of the motor, now making possible many applications heretofore accomplished by other means—a notable example being the sectional motor drive for paper machines by which great economies are effected in the making of paper.

The use of electric heating apparatus in industrial processes in one of the big problems of the future, and it may be conservatively estimated that the progress within the next twenty years in developing apparatus for this purpose will be as great as the accomplishments in illumination and power in the past.